

Draft – October 4, 2007

**SCOPING ACTIVITIES WORK PLAN
ADDENDUM FOR TASK 1 PHYSICAL TEMPLATE CHARACTERIZATION -
BATHYMETRY, SIDE SCAN SONAR, AND SUBSURFACE BOTTOM PROFILING**

**BERRY'S CREEK STUDY AREA (BCSA)
REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

October 4, 2007

**Prepared for:
BCSA Cooperating PRP Group**

309427



1.0 INTRODUCTION

This Addendum to the Scoping Activities Work Plan (SAWP) for the Berry's Creek Study Area (BCSA) presents the procedures for bathymetric surveying, side scan sonar imaging, subsurface bottom profiling and geophysical sampling (collectively BSS work) to be conducted under Task 1 of the SAWP. This Addendum supplements the general task information presented in the SAWP and presents details regarding task implementation, quality assurance, health and safety measures and the qualifications of the contractor selected by the BCSA Cooperating PRP Group (Group) for the BSS work.

The bulk of this SAWP Addendum is comprised of three components or attachments to this introduction. Attachment 1 presents a Work Plan for the BSS work prepared by the contractor selected for the work. Attachment 2 presents the contractor's Health and Safety Plans for the BSS activities and Attachment 3 presents qualifications information for the proposed BSS contractor.

Based on a procurement process conducted by the Group, Rogers Surveying P.L.L.C. of Staten Island, New York was selected to conduct the BSS activities. Rogers will self-perform the bathymetric survey for the BCSA and Earthworks, LLC of Sandy Hook, Connecticut, as a subcontractor to Rogers, will perform the side-scan sonar imaging, subsurface bottom profiling and geophysical sampling. The Rogers/Earthworks team has extensive experience working together to complete similar projects on the lower Hackensack River and throughout New York/New Jersey bight including work for the United States Army Corps of Engineers (USACE) and the Port Authority of New York and New Jersey. Attachment 3 presents qualifications information regarding the Rogers/Earthworks team.

Draft – October 4, 2007

Attachment 1

**Rogers/Earthworks Work Plan for Bathymetry, Side Scan Sonar, and
Subsurface Bottom Profiling**



**Berry's Creek Study Area
Scoping Activities Work Plan Addendum
Bathymetry, Sub-bottom Profiling &
Side-scan Imaging**

Rogers Surveying, PPLC
*1632 Richmond Terrace
Staten Island, NY 10310
718 447-7311*

October 4, 2007

1.0 INTRODUCTION

The scope of work for the geophysical mapping project within the BCSA includes: (1) bathymetry, (2) sub-bottom profiling, (3) side-scan imaging, (4) magnetometer surveying, (5) geophysical sampling, (6) Quality Assurance/Quality Control and (7) reporting and deliverables. The areas to be surveyed are the navigable areas outlined in Figures 1 and 2. The work plan discusses deliverables and schedule.

2.0 BATHYMETRY

Rogers Surveying has been tasked with performing a single-beam survey in the Berry's Creek Study Area (BCSA). Survey lines or creek transects will be run at a 100' line spacing. Additional lines will be run at creek bends and any place where the collected data will help to generate a more accurate 1' contour map.

We are familiar with the project area, and are aware of: the water depths, currents, the tidal range, the surrounding topography, and, the type of bottom to be expected. In addition, we expect no security clearance or permission issues.

The type of survey vessel to be used will be determined by water depth, and the associated equipment necessary to produce a data set, representative of the client's required accuracies. We have chosen to conduct this survey with portable "Jon Boats" (a light flat bottom aluminum boat 10' to 14' in length). Boats will be launched in the Hackensack River just North of Berry's Creek at a marina.

All survey data collected at the site will be with RTK (Real Time Kinematics) GPS. Long standing National Geodetic Survey control will be referenced and "tied into".

Numerous (6 +/-) permanent points will be set along the creek, these points will consist of a 8' copper-weld rod driven into the ground at strategic locations to use as tide gauges or calibration points for others.

An Innerspace Model 456 Survey Fathometer will be used to measure the water depth. A Trimble Model R8 RTK GPS will be used for horizontal and vertical measurements. A notebook computer running Coastal Oceanographic Hypack software will be used to

collect and post process all hydrographic data. Real time water level will be collected using RTK GPS. Prior to the collection of hydrographic data, all equipment will be calibrated and checked. A bar check will be performed at the project area, in water depth as deep as or deeper than the deepest part of the project. As the speed of sound varies with depth and water properties, this will ensure that the most representative bar check is performed for the job.

Some land surveying will be required to capture data on the banks of the creek. After the hydrographic portion of the survey is complete, a return visit to every line will be required and top, and bottom of bank and one location 3'-5' landward measured.

Survey data will be collected and referenced to New Jersey State Plane (NAD83) horizontally and The North American Vertical Datum of 1988 (NAVD88). Prior to commencement of the hydrographic survey, a velocity profile of the water column will be measured, recorded and applied to all depth measurements. This will be completed multiple times a day.

Quality control during the survey will be enhanced by means of real time software monitoring of the various data strings. For example, the number of satellites and the accuracy of the GPS solution is monitored and flagged if it falls below a predetermined threshold; noisy or bad depth information can also generate alarms, as does erroneous heave data caused by excessive wave motion. Constant operator monitoring is required in order to make educated infield decisions about the integrity of the data collected, and the possibility of redoing a portion of the hydrographic survey. On completion of the fieldwork, all data will be backed up, and calibration records will be retained

Once back in the office, the hydrographic data is corrected for tide and processed to produce a clean usable data set. Further quality checks are made during the processing stage, as well as statistical tests on sounding lines verses check lines. Check lines are generally sounding lines that are run perpendicular to main body of sounding lines, to produce overlapping data points for comparison.

The final process of the hydrographic survey is to provide the client with the information requested, and in this case, this will be a map of the project area, showing soundings, 1' contours, buoys, obstructions and any other specific details pertinent to the job. These will be shown on New Jersey State Geo-referenced Ortho Photos, plotted at a scale of 1"=30'.

The field activities associated with the bathymetry work will be completed approximately 6 weeks after notice to proceed.

3.0 SUB-BOTTOM PROFILING

The mobilization for the sub-bottom will begin the third and fourth week after the notice to proceed and after the side-scan imaging is completed. Earthworks expects the imaging to take two weeks, so acquisition will be completed approximately 6 weeks after notice to proceed. Earthworks will acquire a profile down the center of the channel, the canal, and the navigable tributaries at Walden Swamp, Nevertouch Creek, and Peach Island Creek. Navigable portions of Fish Creek and Ackerman's Creek will also be included in the profiling activities. Earthworks will produce cross sectional lines every 100ft on the same lines as the single beam bathymetry. The fish may or may not be fixed to a pole depending on the sensor. After testing in the channels and on the soils, Earthworks will select the sensor that provides the best signals returning from the subsurface. Earthworks will test an Edgetech 512i chirp system, an Edgetech 424 chirp system, and an Innomar SES2000 parametric system. We will use the survey boat Hackensack Alice, a 30ft pontoon boat with an outboard and a crane. The survey speed will be less than 4 knots. Earthworks will use a Trimble AG132 for navigation. The single-beam bathymetry will benchmark the sub-bottom profiling. The sub-bottom signals will be interpolated, filtered, and gained. The results will be migrated into depth.

Sediment cores will be used to calibrate the sub-bottom interpretation and velocity model. The sub-bottom results will be used to correlate with the core descriptions (see Section 6.0). The field component of sub-bottom profiling should be completed approximately 8 weeks after the notice to proceed. The sub-bottom profile data will be

presented as cross-sections corresponding to the transect lines. The vertical datum will be NAVD88 in feet. The horizontal datum will be NAD83 NJ State Plane in feet.

4.0 SIDE-SCAN IMAGING

Side-scan imaging will be used to identify and locate sub-aqueous debris and sediment texture. Earthworks expects the imaging to take two weeks. The area will include the Berry's Creek from mile 0 to mile 5 including the Canal, Walden Swamp, Peach Island, and Nevertouch Creek. Navigable portions of Fish Creek and Ackerman's Creek will also be included. Earthworks will use an Edgetech 4200 fixed to a vertical pole on our survey vessel, Hackensack Alice. The survey boat will travel at roughly 3-4 knots. Navigation will be tracked with a Trimble AG132 dGPS.

Earthworks will produce two sets of orthosonographs for the navigable reaches of the entire area of investigation at 1"=1000' and reach by reach at 1"=500'. Additional detailed images will be prepared for targeted areas based on features observed in the larger scale images. The images will cover 100% of the bottom from bank to bank. The side-scan imaging, the sub-bottom profiles, and cores will be correlated to produce a sediment texture map for the area of investigation. The horizontal datum will be NAD83 NJ state plane in feet.

5.0 UTILITY SURVEY USING MAGNETOMETER

The Meadowlands is crossed by many cables and pipelines. Before Earthworks can cut cores in the BCSA, Earthworks will perform historic analyses and magnetometer survey to determine if crossings occur in the study area. Earthworks will call New Jersey one call. We expect that all new lines will be identified in such a search. That is, any fiber optic lines will be identified with one call. Earthworks will attempt to identify and locate any additional utility lines with via magnetometer survey conducted in areas proposed for coring.

The magnetometer is towed behind the boat using a non-magnetic raft using a maximum height within 10 to 15 feet from the mud-line. Survey lines are parallel to the channel at 50 feet spacing. Boat speed is no greater than 5 knots.

6.0 GEOPHYSICAL SAMPLING

Earthworks will conduct geophysical sampling (70 samples) to validate composition of soft substrate including sampling and grain size analyses (ASTM D422). ASTM D422 states that the sediment will be sieved and the material passing through the sieves into the bottom tray will be measured in a hydrometer. Earthworks will take 150 2-3ft 3" cores along the cross sections and profiles and especially in the shallow ends of the system.

Earthworks has obtained over 1500 borings in NYNJ harbor and over 200 in the Hackensack River system. Earthworks is aware that the cores may have hydrocarbons, heavy metals, and other materials of concern in the sediments. Earthworks will safely obtain the cores, cap them, and label them. All coring personnel will wear aprons, safety goggles, and gloves. Gloves and deck will be washed after each station. The cores will be stored on the Hackensack Alice until the end of the day. The sediments will be transported to the laboratory in Connecticut for splitting, digital photography, description, and sampling. Seventy samples will be obtained for grain size analyses. Earthworks will send these 70 samples to Geotesting, Inc. The 70 samples will be selected to represent the transect locations and materials observed. The split samples will be stored for 1 year after project. At the end of one year, the core material will be disposed of according to regulations, unless directed otherwise. The borings will be obtained in approximately the eight to nine weeks after the notice to proceed. The vertical datum will be NAVD88 in feet. The horizontal datum will be NAD83 NJ State Plane in feet.

7.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Rogers Surveying performs the hydrographic surveys according to the USACE standard EM 1110-2-1003.

Earthworks guarantees a quantification of precision and accuracy on sub-bottom profiling and side-scan imaging. The sub-bottom profiling is a two-way travel time measurement. The side-scan imaging is a backscatter amplitude measurement.

Navigation is tested daily against benchmarks on each reach. All results are plotted on an ortho-rectified aerial photograph to guarantee accuracy at the shoreline.

The sub-bottom two-way travel time is calibrated with a plate check each morning. The two-way travel time is consistently checked throughout the survey against the mudline defined by the single-beam bathymetry. The velocity in the water column is measured each day. The velocity in the sediments is determined from geophysical coring.

Orthosonographs are non-renormalized (absolute) images such that sediment types can be determined from the amplitudes. The seamless orthosonographs require balanced port and starboard transducers. The side-scan sonar is tested and calibrated in a tank before the fieldwork. Each morning, the side-scan sonar is tested at the dock with a rub test. Earthworks will create a test area (a patch) to test the amplitude calibration in the Hackensack River. The patch will have several objects placed in it to test the image resolution and calibration. The patch is measured each morning to test the calibration of the imager and its transducers. The calibration will set for 2 to 15 ft of water.

Accuracy can only be measured against independent measurements. The geophysical coring is the means that Earthworks uses to determine independently the accuracy of the stratigraphy from sub-bottom profiling and the accuracy of the surface sediments from orthosonographs. The grain size analyses will be conducted accordingly to ASTM D422.

The precision and accuracy of each measurement will be specified in the final report.

The magnetometer includes a depth sensor and an altimeter. Each day the sensor in the magnetometer is tested with a calibration rig. Each day the magnetic field density is compared to the expected magnetic field density at the latitude of the survey. The signal strength is acquired and tested throughout the survey. Signal strengths of less than 100 units are redone.

A Quality Control Section shall be included with the draft, as well as, the final submittal from Earthworks. The Quality Control Section details the quality control process performed for the submittals and extents of compliance. The extent of compliance shall include the producer of the product, the original comment, who made the comment and date, comment response, and changes to product, if any, that were made as a result of the comment. The Quality Control Section shall also include the QC process utilized during

the field data acquisition portion of this task order. A certification that the QC process was performed satisfactorily shall be included.

8.0 REPORT AND DELIVERABLES

The report will briefly describe the methods and results. The primary deliverables will be oversized (44' by 30") plates for the orthophotographs, the sub-bottom profiles, and the core descriptions. Earthworks will produce two orthosonographs bank-to-bank superimposed on an orthophotograph for the entire area of investigation at 1"=1000' and reach by reach at 1"=500'. Additional detailed images will be prepared for targeted areas based on features observed in the larger scale images. The core locations will be on another plate. Earthworks will produce a geological map for sediment types along mile 0 to mile 5, the Canal, and as much of Ackerman's Creek, Fish Creek, Walden Swamp, Peach Island Creek, and Nevertouch Creek as is navigable. The final report will also include the bathymetric contour map at a scale of 1"=30' and bathymetric cross-sections for the transect lines.

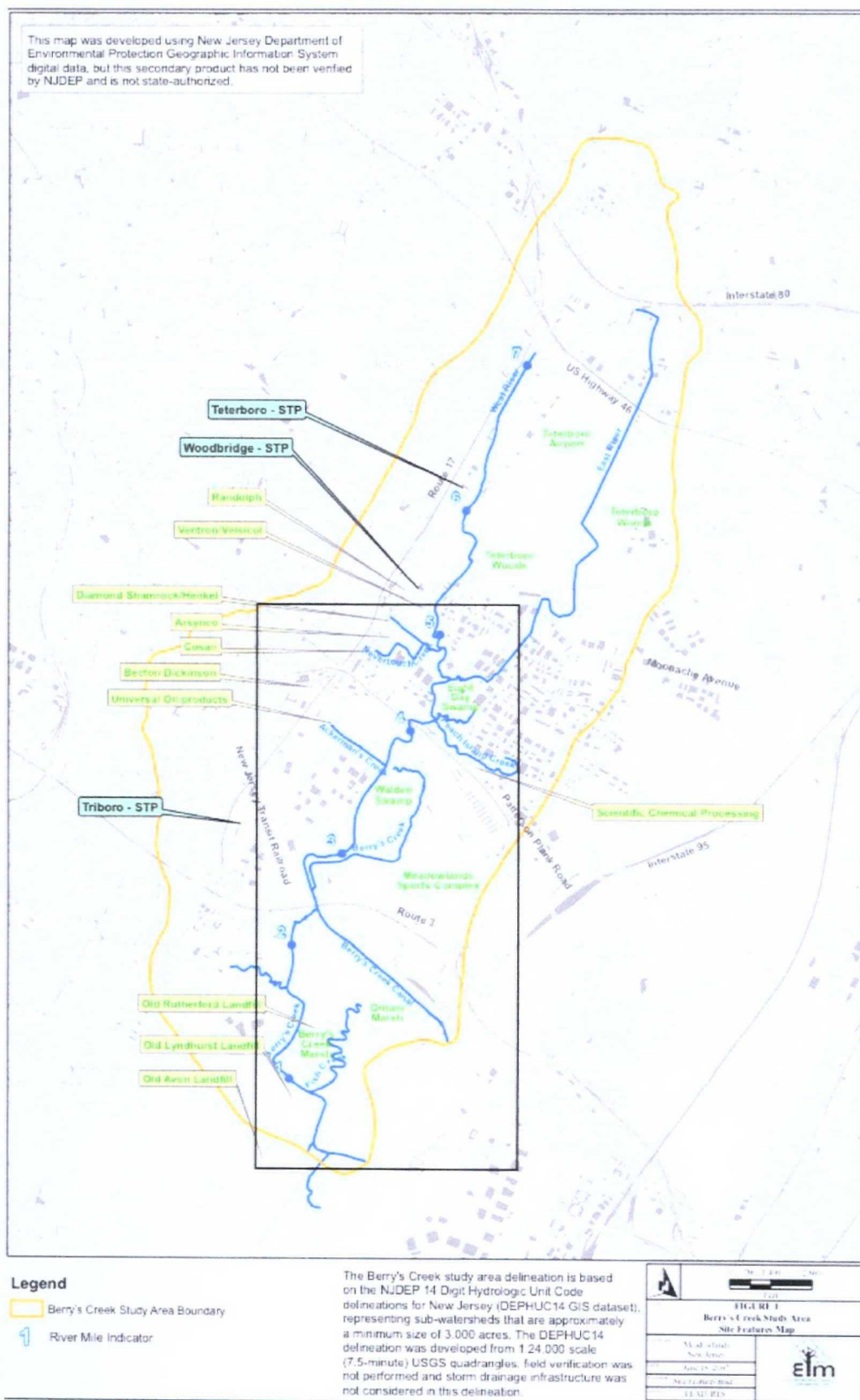


Figure 1. The outline of survey area includes navigable waterways within in the BCSA and the black box.



Figure 2. A quicklook aerial photographic mosaic of the Berry's Creek from mile 3.8 to mile 5.5 including the meanders south of the Paterson Plank Road Bridge, Paterson Plan Road Bridge, Peach Island Creek, Nevertouch Creek, Ventron/Velsicol Site, and the junction with the East Riser. The survey will continue north from the Paterson Plank Bridge to the tide gate above mile 5.

Draft – October 4, 2007

Attachment 2

Rogers/Earthworks Health and Safety Plans

Draft – October 4, 2007

Earthworks Health and Safety Plan

Earthworks Health and Safety Manual

Prevention, Preparation & Honor

Updated: October 2007

We are in the business of reducing our clients' risk.
The greatest risk to our clients would be an accident.
Not preparing for prevention is preparing for an accident.

Table of Contents

Statement.....	2
Table of contents	3
1. Ten Points	4
2. Safety principles	6
3. Procedures	8
4. Accident and injury prevention	11
5. Hazards	16
6. Spill prevention and countermeasure	19
7. Slip, trip and fall	20
8. On-water safety	26
9. Geophysical measurements & coring	27
10. Transit safety	30
11. Safety training and education	31
Appendix I – Earthworks Principles	32
Appendix II – New Jersey emergency procedures	35
Appendix III – Accident and injury summary by task	36
Appendix IV – Safety accountability review form	42
Appendix V – Accident investigation procedure form	44
Appendix VI – Staffing Plan	49

1. Ten points

1. Safety first.
2. Safety officer is Matt Art, who is responsible for the conduct of safe operations throughout the organization:

203-312-4943

mart@earthworks2020.com

Safety Officer reports to Willam Murphy, Principal and Safety Supervisor of Earthworks:

203-820-7320

murphy@earthworks2020.com

3. All employees and supervisors are responsible for their own safety and safety of colleagues and of operations conducted by Earthworks.
4. Driving is the single most important opportunity for potential fatalities. Safe driving must be practiced at all times. The most dangerous driving is when returning from a job when tired and in the dark. The job is not complete until all personnel are home safely. No alcohol may be consumed on the job and when going to and returning home from a job.
5. All safety decisions on the water are made by the boat captain. While Earthworks personnel maintains the prerogative to decide the safety of any task, the captain has final say with regard to marine safety. All Coast Guard regulations must be followed at all times.
6. Working in and around petroleum facilities requires special care and close collaboration with client personnel and procedures.

7. Safety surveys are mandatory prior to all boring and coring procedures. Safety surveys include magnetometer, seismic, and side-scan sonar surveys as well as historical analysis and appropriate “one-call” utility notifications.
8. All equipment configurations should be overbuilt with safety in mind.
9. With regard to PPE, head, eyes, hands, and feet are the most vulnerable.
10. All personnel must be aware of accident procedures and local emergency contact information at all times.

2. Safety principles

Earthworks LLC operates according to a set of principles stated in Appendix I. Earthworks is in the business of reducing the clients risk. The first risk that a client faces is that one of our employees may have an accident. Therefore, safety comes first in all operations.

Earthworks operations also depend on an expectation that preparation and prevention of mistakes and accidents is the key to successful operations. Mistakes and errors will happen, but preparation and prevention will minimize the outcome and no one will suffer injury.

In terms of safety, we emphasize safe driving as the single most important element. Boating safety is second. Third is personal physical safety from cuts, falls, and contact with hazardous materials. Fourth are environmental concerns such as spills, fire, and explosions. Fifth, we are concerned about blunt force trauma because we handle, lift, and move moderately-heavy equipment.

All of our employees are highly-educated, intelligent, and thoughtful:

1. William Murphy III –PhD, Stanford
2. Bruce Ward – PhD, Stony Brook
3. Beckett Boyd – BS, Columbia
4. William Murphy IV – BA, Columbia
5. Mat Art – BA, Williams
6. Daniel Rosales – PhD, Stanford
7. Richard Nolen-Hoeksema – PhD, Yale
8. Ian Tetrault – BA, RISD

Thoughts and concerns about safety require that each employee stop and consider the situation before acting on the next task. Safety concerns are reviewed at the beginning of each project and evaluated in hindsight after each project. The creation of good habits is a principle upon which we operate. Good habits are safe habits.

Draft – October 4, 2007

Field crews consist of three people. Each employee must work in the field in a pair with another employee. Each is responsible for the safety of his or her mate.

3. Procedures

We do not operate heavy equipment. If there is ever a need for heavy equipment to be used, Earthworks will subcontract to a qualified licensed provider or operator.

Prior to leaving the dock the survey captain alerts the US Coast Guard Vessel Traffic Service (USCG-VTS) of all impending operations and location of survey. The captain alerts USCG-VTS of the timing and scope of all operation, and any impedance to normal operation. This check-in process takes place as the survey vessel leaves the homeport. The survey vessel remains in radio contact with USCG VTS at all times during the survey. In New York and New Jersey, the principle channel of contact is channel 13.

Earthworks coordinates survey operations with the property owners and operators in the vicinity of survey operations. Earthworks maintains safe distances from all vessel traffic. If the survey would impede commercial navigation, the survey is paused until the survey area is free and clear of traffic. The boat captain often requests a slow bell for surveying operations.

At all times during the survey the captain is in control of the boat and navigation. If navigation is deemed unsuitable for surveying it is the captain's responsibility to stop surveying. At all times the captain is in control of the ship. It is the responsibility of all hands on deck to provide extra eyes, alerting the captain to any hazards that the captain may or may not see.

During Earthworks survey, employees always work in pairs. The buddy system assures that there are always built in safety checks in the survey procedure.

If an accident were to occur near the Port Reading

Earthworks operates in the Woodbridge and Port Reading segment of the Arthur Kill. Operations are conducted on the Red Rogers Survey boat and the Hackensack Alice pontoon workboat. Both boats must comply with the USCG regulations for equipment.

Port Reading
Woodbridge
if the could be
contingency given
2/2/02

If an injury or emergency requiring medical assistance, the boats are to proceed to the pier at Captain Carlson Park, Cliff Road and Ferry Street, Boynton Beach, NJ. By cell phone, Earthworks will call 911. Then, Earthworks will call the EMS staff at Linden EMS, 12 North Stiles, Linden, NJ 07036 (908-474-8623). The closest hospital is Robert Wood Johnson University Hospital at Rahway, 865 Stone Street, Rahway, NJ 07065 (732-828-3000). If deemed necessary for on water assistance, the boat captain will call the USCG on the radio (channel 13). The New Jersey State police operate a boat in these waters. They can be reached by calling 911.

The greatest risk at the Port Reading site is the proximity to oil storage and oil transfer. Precautions and prevention of all contact with petroleum storage and transfer equipment is essential. Consult the Hess Port Reading safety officer, Abiye Obunge at 732-750-7839, if any questions or issues should arise.

If an accident were to occur at the Meadowlands

Earthworks operates in the Bayonne, Hackensack River, and Berry's Creek segment of the Newark Bay and the Meadowlands. Operations are conducted on the Red Rogers Survey boat and the Hackensack Alice pontoon workboat. Both boats must comply with the USCG regulations for equipment.

If an injury or emergency requiring medical assistance, the boats are to proceed to the pier at the Red Roof Inn, Mallard Place and Riverside Court, Secaucus, NJ. By cell phone, Earthworks will call 911. Then, Earthworks will call the EMS staff at Carlstadt Ambulance Corp, 424 Hackensack Street, Carlstadt, NJ 07072 (201-438-8886). The closest hospital is Meadowlands Hospital & Medical Center, 55 Meadowlands Parkway, Secaucus, NJ 07094 (201-392-3100). If deemed necessary for on water assistance, the boat captain will call the USCG on the radio (channel 13). The New Jersey State police operate a boat in these waters. They can be reached by calling 911.

Earthworks and Earthworks personnel understand that the greatest risk at Berry's Creek in the Meadowlands is the proximity and contact with hazardous materials, even in small volumes. The contaminants are mercury, chromium, other heavy metals, hydrocarbons, PCBs, and PAHs. Precautions and minimization of all contact with water and sediment is essential. Two tasks could generate an opportunity for contact (1) geophysical coring, and (2) cleaning equipment that has made contact with sediment. In both tasks, the Earthworks personnel should wear the personnel protective equipment appropriate for contact from mercury. All surfaces that come in contact with sediment must be washed with fresh water at the end of the day. All skin that comes in contact with the sediment must be washed immediately. Care should be taken with gloves as small amounts of chemicals or hazardous material on gloves can be easily transmitted to sensitive areas on the body and face. Buckets of fresh water must be kept on the boat at all times for washing, bathing, and/or cleaning persons, PPE, and equipment.

Earthworks will contact EMS in case of unprotected exposure to any hazardous material or chemical contaminant.

4. Accident and injury prevention

Earthworks, LLC shall furnish to each of its employees, employment and a workplace free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees. Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued which are applicable to his own actions and conduct.

During coring and boring operations, Earthworks may encounter sediments contain amounts of hydrocarbons and heavy metals. Section 9 covers the procedures required for safe coring and handling of materials from cores and borings.

Dress Code

There is no formal dress code for Earthworks employees. All employees must, however, wear clothes suitable for the jobs being performed. Employees will be fully briefed by the Safety Officer before the start of a job regarding the project specific dress code.

Footwear

The most important protection is to wear the proper footwear for your work and environment. The shoes or boots should provide three major types of protection.

- The soles and heels should be slip-resistant
- The toe of the shoe should resist crushing injuries
- The shoe should support the ankle

The American National Standards Institute (ANSI) sets standards for shoes and boots. Chevron or cleat-designed soles are definitely the best for slippery situations because of the suction or squeezing action they provide. The softer soles are better for slippery hard flooring conditions; the harder, more rugged cleat-type sole is preferred for tough outdoor use. Leather covering the foot and ankle portion of the foot is preferred in most work environments. However, when working in wet environments or around chemicals, oils, greases or pesticides, boots made of polyvinyl chloride (PVC), a blend of PVC and polyurethane, or neoprene should be used.

Personal Protective Equipment

Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

Where employees provide their own protective equipment, Earthworks shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

All personal protective equipment shall be of safe design and construction for the work to be performed.

Earthworks shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the Earthworks shall:

- Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;
- Communicate selection decisions to each affected employee; and select PPE that properly fits each affected employee. Note: Non-mandatory Appendix B contains an example of procedures that would comply with the requirement for a hazard assessment.
- Earthworks shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and which identifies the document as a certification of hazard assessment.
- Defective or damaged personal protective equipment shall not be used.

Earthworks shall provide training to each employee who is required by this section to use PPE. Each such employee shall be trained to know at least the following:

- When PPE is necessary;
- What PPE is necessary;

- How to properly don, doff, adjust, and wear PPE;
- The limitations of the PPE; and,
- The proper care, maintenance, useful life and disposal of the PPE.

Each affected employee shall demonstrate an understanding of the training, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

When Earthworks has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, Earthworks shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of PPE to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

Earthworks shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

Eye and Face Protection

Earthworks shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

Earthworks shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

Earthworks shall ensure that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design, or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

Hand Protection

Earthworks shall select and require employees to use appropriate hand protection when employees hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

Earthworks shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.

Foot Protection

Earthworks shall ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards.

Head Protection

Earthworks shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects.

First Aid

First aid supplies are readily available at all times. When larger operations or multiple operations are being conducted at the same location, Earthworks will determine the need for additional first aid kits at the worksite, additional types of first aid equipment and supplies and additional quantities and types of supplies and equipment in the first aid kits.

Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

Handling Materials

Where mechanical handling equipment is used, sufficient safe clearances shall be allowed for aisles, at

loading docks, through doorways and wherever turns or passage must be made. Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard. Permanent aisles and passageways shall be appropriately marked. Earthworks does not operate any heavy equipment.

Storage of material shall not create a hazard. Bags, containers, bundles, etc., stored in tiers shall be stacked, blocked, interlocked and limited in height so that they are stable and secure against sliding or collapse. Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage.

5. Hazards

A hazard is the potential for harm. In practical terms, a hazard often is associated with a condition or activity that, if left uncontrolled, can result in an injury or illness. Identifying hazards and eliminating or controlling them as early as possible will help prevent injuries and illnesses.

HAZARD COMMUNICATION PROGRAM

Introduction

It is the intention of the Earthworks to comply fully in a prudent manner with all occupational safety and health standards/regulations.

This program has been established to provide guidelines for all employees, and for Earthworks to meet the requirements of the Hazard Communication Standard. The program applies to any hazardous chemical(s), which is known to be present on the premises, that employees may be exposed under normal conditions of use or in a foreseeable emergency. This written Hazard Communication Program will be available to all employees for review at all times.

Hazardous Chemicals List

Earthworks has established and will maintain a list of all the hazardous chemicals used on the premises. Matthew Art, Safety Officer will be made responsible for the maintenance of this list.

Labeling of Hazardous Chemicals

Each container containing a hazardous chemical will be labeled with the identity and the appropriate hazard warning of the contents. In addition, those containers containing hazardous chemical(s) when received from a supplier or shipped to a customer will also have the name and address of the manufacturer or the responsible party. It is the responsibility of Matthew Art, Safety Officer to assure that the identity and the hazard warnings are placed on all containers that have been transferred from the original drum or container. Also, it is the responsibility of the Matthew Art, Safety Officer to assure that the identity, the hazard warnings and the name and address of the supplier are on the received/shipped container(s).

Material Safety Data Sheets (MSDS)

This MSDS file will contain an MSDS for every hazardous chemical used on the premises. These sheets will be available to employees at all times.

Information & Training

It is the policy of Earthworks to provide an information and training program to all employees with the implementation of this program, at the time of a new employee's initial assignment, and whenever a new hazard is introduced into the working place.

This information and training program will include:

- Any operation in employees' work areas where hazardous chemicals are present.
- Location and availability of the written hazard communication program, the list of hazardous chemicals and material safety data sheets.
- Means of detecting the presence or release of hazardous chemicals in the work area.
- Physical and health hazards of the chemicals in the area.
- Measures employees can take to protect themselves from these hazards.
- Explanation of the labeling system and the material safety data sheet.
- Emergency procedures.
- Details of the written hazard communication program developed by the Earthworks. It will be the responsibility of the Matthew Art, Safety Officer to implement and maintain the information and training program.

Contractor Work

When it is necessary for an outside contractor to perform work at Earthworks, it shall be the responsibility of the Matthew Art, Safety Officer to inform the contractor of the identity of any hazardous chemicals to which the contractor may be exposed. The procedure for informing the contractor will include the following:

- Making the hazardous chemicals inventory of any designated work area where contract work is being performed available to the contractor and advising the contractor of the labeling system.
- Making the MSDS's of the identified hazardous chemicals in a designated work area available to the contractor.

- Making the contractor aware of the appropriate protective measures taken by Earthworks employees in a designated work area. It is also the responsibility of Matthew Art, Safety Officer to determine if the contractor will be using any hazardous chemicals and, if so, to take appropriate actions to assure the protection of Earthworks employees.

Hazard of Non-routine Tasks

Prior to starting work on hazardous non-routine tasks, every affected employee will be given information by Matthew Art, Safety Officer about the hazardous chemical(s) to which they may be exposed. Such information will include, but not be limited to specific hazards associated with the chemical(s), protective measures (i.e. personal protective equipment, work practices, engineering controls etc.) and emergency procedures.

6. Spill Prevention, Control and Countermeasure

Earthworks does not throughput of any type of oil or chemical. Earthworks only uses oil for motive power, and in small generators. Earthworks therefore is not legally bound to have a certified SPCC plan. However, Earthworks prevention, control and counter measures are as follows:

Discharge Prevention and Control

- Fuel Transfer - All fuel transfer is limited to 2 gal per occurrence.
 - Can-to-can transfer – Transferor must use a funnel, and have absorptive pad nearby in case of spillage. All can-to-can fuel transfer must take place in a containment tub. Transfer may not be attempted while the vessel is in motion.
 - Can-to-generator transfer – Transferor must use a funnel and have absorptive pads in place to absorb any spilled petroleum. Transfer may not be attempted while the vessel is in motion.
- Fuel Storage – All gas cans on board a vessel are limited to 5 gallons, or less. All gas cans are stored in a containment tub. The quantity of gas can contained fuel allowed on board a vessel is 20 gal.

Spill Remediation

- Cleanup – All spills must be absorbed into pads. Used pads are stored in water and air-tight containers until properly disposed of. Any oil residue must be coated with absorptive material and swept into a water and air tight container. All surfaces are cleaned

7. Slip, Trip and Fall

Earthworks approaches this subject by identifying and understanding how trip, slip and fall accidents happen. We then minimize and eliminate slip, trip and falling hazards.

Once per month, the Earthworks safety officer will inspect the safety of all operations.

Identifying Slip and Trip Hazards

Slips

Slips happen where there is too little friction or traction between the footwear and the walking surface.

Common causes of slips are:

- wet or oily surfaces
- occasional spills
- weather hazards,
- loose, unanchored rugs or mats, and
- flooring or other walking surfaces that do not have same degree of traction in all areas.

Trips

Trips happen when your foot collides (strikes, hits) an object causing you to lose balance and, eventually fall. Common causes of tripping are:

- obstructed view
- poor lighting
- clutter in your way
- wrinkled carpeting
- uncovered cables
- bottom drawers not being closed
- uneven (steps, thresholds) walking surfaces.

Preventing slip and trip falls

Both slips and trips result from some a kind of unintended or unexpected change in the contact between

the feet and the ground or walking surface. Good housekeeping, quality of walking surfaces (flooring), selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

Good Housekeeping

Good housekeeping is the first and the most important (fundamental) level of preventing falls due to slips and trips. Earthworks takes the following measures to prevent falling hazards:

- Cleaning all spills immediately
- Marking spills and wet areas
- Mopping or sweeping debris from floors
- Removing obstacles from walkways and always keeping them free of clutter
- Securing (tacking, taping, etc.) mats, rugs and carpets that do not lay flat,
- Covering cables that cross walkways,
- Keeping working areas and walkways well lit,
- Replacing used light bulbs and faulty switches.

Good housekeeping practices, and preventive measures such as installation of sophisticated flooring, specialty footwear and training on techniques of walking and safe falling effectively reduce the risk of injury in the workplace.

Footwear

In workplaces where floors may be oily or wet or where workers spend considerable time outdoors, prevention of fall accidents focuses on selecting proper footwear. Properly fitting footwear increases comfort and prevents fatigue that, in turn, improves safety for the employee.

Employee Responsibility

It is important remembering that safety is everybody business. It is Earthworks responsibility to provide safe work environment for all employees. It is the responsibility of Earthworks employees to act in the following manner to prevent slips, trips and falls:

- Take your time and pay attention to where you are going.
- Adjust your stride to a pace that is suitable for the walking surface and the tasks you are doing.
- Walk with the feet pointed slightly outward.
- Make wide turns at corners.

- Change direction slowly
- Always using installed light sources that provide sufficient light for your tasks.
- Use a flashlight if you enter a dark room where there is no light.
- Ensure that things you are carrying or pushing do not prevent you from seeing any obstructions, spills, etc.
- Wear appropriate footwear with surface specific traction and job specific protection.

Identifying Elevated Falls

Generally, elevated falls are less frequent but more severe than same-level falls in the workplace. Elevated falls are falls from ladders, falls from vehicles and equipment, falls from loading docks, buildings and other structures.

Falls from Ladders

Ladders may be fixed or portable. They may be straight- extension- or step-ladders and may be manufactured from wood, metal, plastic, or fiberglass. They can be light-, medium-, heavy-, or extra-heavy-duty. They can be two feet high (step-stools), 18 feet for extra-heavy-duty step-ladders, and 40 feet or longer for extension-type ladders.

The materials from which ladders are constructed have advantages and disadvantages in weight, durability, flexibility, conductivity, and strength. The intended use of the ladder should determine the type purchased, and only American National Standards Institute (ANSI) approved ladders shall be used. One major caution is that metal ladders should never be used in locations in which the ladder or its user could come into contact with electricity.

A ladder should be long enough so that when it rests against the upper support the user can work with waist no higher than the top rung of the ladder or above the rung at which the side-rails are resting against the upper support. This means that the top three rungs of a straight ladder or the top two steps of a stepladder should never be used for the feet.

The lower ends of the side rails should be equipped with slip-resistant pads, particularly if the ladder is to be used on hard surfaces. The same is true for the upper ends of the side rails if they are to rest against a

surface.

Ladders should be set at, or as near, a 4:1 angle as possible. That is, for each three or four feet of rise from the base to the upper resting edge of the ladder, the base should be one foot out from a vertical line from the upper resting edge of the ladder to the working surface. As an example, if a ladder is leaning against a ledge 20 feet off the ground, the base of the ladder should be five feet back from the wall. The base of the ladder must be firmly set so that there is no possibility of slippage or settling into soft ground. The resting edge of the ladder should have both side rails in contact with the structure it is against.

Ladders should be inspected before use: check for cracks, loose rungs, splinters, and sharp edges. Never paint ladders, as the paint can hide potentially dangerous conditions. Wooden ladders can be coated with linseed oil or an oil-based wood preservative to keep them from drying out and cracking. Allow ladders to dry thoroughly before using them or the rungs will be slippery.

The rungs and side rails of ladders must be kept free of oil, grease, and mud; they should be kept dry. Since the shoe has limited contact with the rung or step of a ladder, it is very important that both rungs and shoes have a high coefficient of friction (COF.) Only shoes with heels should be worn when climbing ladders; users should be taught that the rung or step of the ladder should be just in front of the heel, under the arch of the foot. Stepping or standing on a ladder with the front part of the shoe is inviting a slip and fall. Always face the ladder when climbing or descending.

Another frequent cause of ladder-related injuries is attempting to reach too far left or right. When working on a ladder, the person's belt buckle should never extend beyond the side rails. Reaching further can cause the ladder to slide in the opposite direction. Tying the ladder to the structure supporting it can prevent this and is a recommended practice.

Workers should have both hands free to hold the ladder's side rails, not the rungs, when climbing or descending. Small tools may be carried in a tool belt, not in the hands; but a better choice is to raise tools and supplies with a rope. Never raise or lower power tools by the cord or while they are plugged into an electrical source.

Make-shift ladders, chairs, boxes, and barrels should never be used as substitutes for a ladder -- the risk is far too great.

Falls from Vehicles and Equipment

Whenever mounting or climbing on a vehicle or machine or vessel, have a good hand hold before stepping up. Pulling yourself up reduces the force between your shoe and the step and reduces the danger of a slip. As with a ladder, the foot should be placed on the step or rung just in front of your heel, under the arch. Always face the vehicle or equipment when mounting and dismounting. When stepping down backward, step down on the ball of the foot; when stepping down forward, one lands on the heel, thus increasing the chances of falling, twisting an ankle or knee or suffering some other injury.

Practice the "Three-Point System." This system can significantly reduce the chances of injuring yourself through a slip or fall while climbing ladders or while entering or exiting a vehicle. The Three-Point System means that three of your four limbs are in contact with the ladder or vehicle at all times, either one hand and two feet, or two hands and one foot -- only one limb is in motion at any one time.

Falls from Loading Docks

Loading docks and ramps are dangerous areas. They are frequently congested, heavy-traffic areas, and working and walking surfaces are often wet. Metal dock plates can wear smooth and become very slippery; in particular, the edge of a dock plate invites trips and falls.

Accidental backward steps can result in a fall from the dock. Portable railings, which can be easily removed from the edge of the dock, could prevent many dangerous falls. They are removed when a truck or tractor is at the dock, and replaced as soon as the truck or trailer leaves.

Proper housekeeping, well-designed traffic patterns and the use of abrasive, skid-resistant surface coatings will reduce the risk of slips, trips and falls.

Ramps and gang-planks have hazards similar to loading docks. The slopes should be as gradual as possible, as wide as possible, and as dry as possible. They should also have skid-resistant surfaces.

Falls on Stairs

Stairwells should be well lit, with sturdy handrails on both sides. Persons using the stairwell should have one hand free to be able to use the handrail.

All the steps should have the same rise and depth, with visible edges. They must be kept free of grease,

oil and obstacles that could cause slips and trips. Whenever possible, avoid carrying heavy or bulky objects which obscure your vision and/or require the use of both hands. Carry smaller, lighter loads and make more trips, or obtain help with the load.

Fall Protective Devices

Workers at high elevations, such as ladders, platforms, or catwalks, should be protected from falling by some kind of fall protective device. This can be a protective cage, a lifeline, lanyard, safety belt or harness; there are numerous devices on the market. The system should provide maximum protection, but it also should be reasonably comfortable and not restrict a worker's necessary work activity. Suppliers of safety equipment can provide information on the correct system for your workplace and should provide instruction on its safe use.

Signs and Stripping

Safety signs to remind people of slip, trip and fall hazards are certainly always helpful, particularly where hazards cannot be removed or corrected. Such signs should be changed frequently.

Yellow stripping to identify walking and working areas are most effective if their meaning is enforced. Striped areas should mean that no object should be placed in these areas. Dropped and spilled materials should be removed immediately.

Learning How to Fall

Naturally, the goal is not to slip, trip and fall; however, the possibility of a fall still exists. There are correct ways to fall, however, the recommended procedures are:

- Tuck your chin in, turn your head, and throw an arm up. It is better to land on your arm than on your head.
- While falling, twist or roll your body to the side. It is better to land on your buttocks and side than on your back.
- Keep your wrists, elbows and knees bent. Do not try to break the fall with your hands or elbows. When falling, the objective is to have as many square inches of your body contact the surface as possible, thus, spreading out the impact of the fall.

8. On Water Safety

United States Coast Guard (USCG) requirements

All vessels that Earthworks employees work on comply with all USCG requirements. Each employee shall be trained and licensed for safe boating. The captain alerts USCG VTS of all operations prior to leaving the dock for survey operations. The vessel remains in radio contact until it returns the dock or checks-out of USCG VTS jurisdiction. All hands outside of the cabin will don PFD's. If harnesses are deemed necessary by the captain or safety officer, they must be worn.

Rules of the waterways

All Earthworks employees have been certified in watercraft safety and the rules of navigation.

Impedances to vessel navigation

Navigation safety is the foremost concern when surveying. If there are any visible, or known submerged navigational hazard, the survey path will move to avoid any hazard. It is the responsibility of all hands on deck to provide extra eyes for identifying any hazards that the captain may or may not see.

9. Geophysical Measurements & Coring

Safety Survey

Prior to any coring, drilling or any other measurement in which contact is made with the subsurface, Earthworks conducts a safety survey to check for cables, pipelines or any other hazards to subsurface investigation. Prior to any coring, drilling or sampling Earthworks notifies utility companies via the appropriate “one-call” agency.

Electricity and water

All conductive instruments and equipment used on board vessels is grounded in the water via a ground rod or other suitable grounding device.

Towing Equipment

Equipment towed from the survey vessel is both the responsibility of the equipment operator and the survey captain. The survey captain is responsible for traffic and navigation. The equipment operator is responsible for the equipment and the interaction with the physical environment. The depth at which equipment is towed depends on the function of the instrument. Safety is always the determining factor for selecting appropriate tow depth.

Towed equipment includes, but is not limited to:

- Sub-bottom profiler
- Side scan sonar
- Magnetometer
- Boomer seismic source
- Air gun seismic source
- Resistivity
- Seismic streamer

Mounted Equipment

Earthworks side scan sonar is primarily used in a fixed position on the bow of a vessel. The depth at which the instrument is mounted is water-depth dependent. The determination of depth is a function of

bathymetry, water depth, and range (area) of survey line. We always err on the side of safety, we do not put our equipment or personnel in harms way.

Air Gun

Pressurized nitrogen is used for the air gun because it is an inert gas. All couplings, lines and hoses for gas lines are inspected prior to connection. All pressure is released prior to disconnection. The air gun is only fired when it is in the water and a safe distance from personnel and other equipment.

Working around oil and gas

Surveys near any petroleum storage facility are conducted using the regulations and guidelines of the facility.

Drilling and Coring

All coring will take place using appropriate level of PPE. If it is reasonably assumed that there is any contamination of sediment then the following actions will be taken. Hand, face, and eye protection and will be worn commensurate with the level of contamination expected in the sediment. MSDS of suspected contaminants are consulted, studied and regulations are followed.

Earthworks and Earthworks personnel understand that there are risks at Berry's Creek in the Meadowlands associated with the proximity and potential contact with hazardous substances, even in small volumes. The contaminants of primary potential concern are mercury, chromium, other heavy metals, hydrocarbons, PCBs, and PAHs. Precautions and minimization of all contact with water and sediment is essential. Earthworks personnel wear the personal protective equipment appropriate for contact with the constituents of concern. All surfaces that come in contact with sediment must be washed with fresh water between stations and at the end of the day. All skin that comes in contact with the sediment must be washed immediately. Care should be taken with gloves as small amounts on gloves can be easily transmitted to sensitive areas on the body and face. Containers of fresh water must be kept on the boat at all times for washing, bathing, and/or cleaning persons, PPE, and equipment.

A safety survey must be conducted before any coring. Additionally, a reasonable historical analysis including "one-call" procedures must be conducted to identify fiber optic cables as well as pipelines and electrical cables.

Cables and Pipelines

All cables and pipelines are to be treated as if they are active. No coring or drilling will be attempted within 50 feet of any cables or pipelines.

10. Transit safety

Earthworks limits the number of cars on the road to the absolute minimum. All drivers shall take a defensive driving course every three years.

11. Training and Safety Education

Employee training is required prior to any operation of equipment or fieldwork. Training is integrated within the education of new employees, and new methods or procedures for making geophysical measurements. Both training and education are core Earthworks principles (see Appendix I).

Appendix I – Earthworks Principles

Earthworks, LLC

Science in service to engineering
Measure twice, cut once
Preparation and honor

Spirit

Client success
Client value
Client centric
Safety first
Minimize client risk
Lump-sum, fixed price
Spirit of scope of work
First class service
Best in class
Exceed expectations

Principles of operations

“If anything can go wrong, it will.” – Edward A. Murphy

1. Be prepared
2. Safety first and always
3. Perfect good habits
4. Do not procrastinate
5. Results are always the central issue
6. Automate QA/QC, maintain efficiency
7. Checklists for equipment, procedures, & data
8. Mistakes will happen; scientists are human
9. Machines breakdown
10. Redundancy anticipates unexpected
11. Prevent and remediate mistakes in real time
12. Learn from mistakes, prepare for next time
13. Quantify precision with repeatability
14. Command files for data entry
15. Record navigation with command files
16. Duplicate data on separate media
17. Archive final data and results
18. Clean always

“By doubting, we come to inquire and by inquiry we arrive at the truth.” – Peter Abelard

19. Vigorously debate the alternatives to find the best path to results
20. Internal education, evaluation, and communication must be continual

“Confront the brutal facts of your current reality, and retain unwavering faith that you will prevail in the end.” – The Stockdale Paradox

21. When preparation is complete, do it
22. Be persistent

Internal self-consistency (precision) is secondary to correlation of independent data (accuracy).

23. Tie into benchmarks
24. Borings must be absolutely honored
25. Map all results
26. Stay close to data
27. Each step must be checked independently
28. If you can, make redundant measurements
29. Re-evaluate assumptions in hindsight

The objective is to deliver valuable and self-evident product to our client on time and for a fixed price.

30. Timeliness
31. Focus, avoid distractions
32. Processing and interpretation require some care, preparation and dedication as the fieldwork
33. Science is the discipline, service is the product
34. Teamwork requires sublimation of eccentricities
35. Communicate daily

Implement new methods if and only if the new technique performs equivalently or better than the existing standard practice.

36. Standard practice based on repetition
37. Careful implementation
38. Rely on good habits
39. Adaptations must be conservative
40. Resist impulsive change

It is never about you

“Serious presentations rise and fall on the quality, relevance and integrity of the content.” - Edward Tufte
Simplify

41. Reduce the clients risk
42. Visualize your client's success and yours will follow
43. Reduce client safety factor
44. Stay in touch
45. Communicate consistently in short bursts
46. Make a project easy and pleasurable for the client
47. Little considerations make a big difference
48. No detail is too small to consider
49. Do not burden client with unnecessary detail
50. Clean design and appearance imply value
51. Design expresses function and efficiency
52. Simplicity speaks for itself

- 53. Representations must be self evident
- 54. Design should reflect the natural system
- 55. Beauty always has value
- 56. Understate the content
- 57. Always surprise in some way

Appendix II - New Jersey emergency procedures

Location: Bayonne, Hackensack River, Meadowlands and Berry's Creek

Emergency: 911

Pier: Red Roof Inn, Mallard Place and Riverside Court, Secaucus, NJ

Hospital: Meadowlands Hospital & Medical Center, 55 Meadowlands Parkway, Secaucus, NJ 07094 (201-392-3100)

EMTs: Carlstadt Ambulance Corp, 424 Hackensack Street, Carlstadt, NJ 07072 (201-438-8886)

Location: Woodbridge, Port Reading

Emergency: 911

Pier: Captain Carlson Park, Cliff Road and Ferry Street, Boynton Beach, NJ

Hospital: Robert Wood Johnson University Hospital at Rahway, 865 Stone Street, Rahway, NJ 07065 (732-828-3000)

EMTs: Linden EMS, 12 North Stiles, Linden, NJ 07036 (908-474-8623)

Appendix III – Accident and Injury Summary by task

Report title	completion date	client	Accident or Injury?
Rock Properties of Diabase Kill Van Kull Navigation Channel, Port of New York & New Jersey	Feb-99	Port Authority of New York & New Jersey; Gahagan & Bryant Associates, Inc.	no accident or injury
Reservoir Analog Outcrop Study III: Carbonates Middle East	Oct-99	Aramco	no accident or injury
Side Scan Sonar Imaging of Piers on the Gowanus River & Piers on the Bay Ridge Waterfront	Nov-99	US Army Corps of Engineers - New York District; Rogers Surveying, PLLC	no accident or injury
Base map & Interactive DGPS Education I, Cibolo Nature Center, Boerne Texas	Nov-99	Cibolo Nature Center, Texas	no accident or injury
Thin section imaging II	Dec-99	Schlumberger-Doll Research; ONGC	no accident or injury
Side Scan Sonar Imaging of Calcaiseau River, Lake, Louisiana	Feb-00	Black and Veatch; Gahagan & Bryant Associates, Inc.	no accident or injury
Geophysical Survey Lake Charles MGP Site	Feb-00	Black and Veatch; Gahagan & Bryant Associates, Inc.	no accident or injury
Application of Digital Geology and Three-dimensional Analogs to the Lewis Shale Project: Phase I: Reservoir Analog Outcrop Study I	Feb-00	Theoretical and Applied Geology, Gas Research Institute	no accident or injury
Subsurface Exploration of Newark Bay, Areas 6 & 7, Port of New York & New Jersey	May-00	US Army Corps of Engineers - New York District	no accident or injury
Rock Texture & Porosity Evolution of Middle East Formation, Carbonate Core and Reservoir Study II, Part 3	Aug-00	Schlumberger-Doll Research; Aramco	no accident or injury
Subsurface Investigation Side Scan Sonar & Subbottom Profiler Newark Bay Channel Improvement Project, Contract Areas 5 & 8: Geophysical Characterization	Apr-01	US Army Corps of Engineers - New York District	no accident or injury
Seismic Investigation of the Top-of-Rock in Newark Bay, Port of New York & New Jersey	Apr-01	Port Authority of New York & New Jersey; Gahagan & Bryant Associates, Inc.	no accident or injury
New York Harbor Kill Van Kull and Newark Bay Channels Navigation Improvement Project (Area 4A): Geophysical Characterization	Aug-01	Port Authority of New York & New Jersey	no accident or injury

Quality Assurance Review of Blasting Program KVK Area 4A; KVK and Newark Bay Channels, Port of New York & New Jersey	Aug-01	US Army Corps of Engineers - New York District	no accident or injury
New York Harbor Missing Vehicle Location Port Newark, New Jersey:	Aug-01	Port Authority of New York & New Jersey; Rogers Surveying, PLLC	no accident or injury
Paths for Rerouting Pipeline Crossings Arthur Kill, and Newark Bay, Port of New York & New Jersey	Sep-01	Phillips/Tosco	no accident or injury
3-D Core imaging and multi-scale-data integration and management: Carbonate Core and Reservoir Study V, Part 3	Jan-02	Schlumberger-Doll Research; ADCO	no accident or injury
KVK and Newark Bay Navigation Channels - Subsurface Investigation Geophysical Exploration, Area 6 & 4B	Mar-02	US Army Corps of Engineers - New York District	no accident or injury
Subsurface Geophysical Exploration for KVK and Arthur Kill Channels NYNJ Harbor 52' Plan: Borings	Mar-02	US Army Corps of Engineers - New York District	no accident or injury
Thin Section Imaging VIII: Carbonate Core and Reservoir Study V, Part 2	Apr-02	Schlumberger-Doll Research; ADCO	no accident or injury
Subsurface Exploration-Borings NYNJ Harbor 52' Project	May-02	US Army Corps of Engineers - New York District	no accident or injury
East Hampton Pier Side-scan Sonar Survey for Amistad Landing on August 13, 2002	Aug-02	Miller Marine; Town of East Hampton, NY	no accident or injury
DO 1: Subsurface Geophysical Exploration - Port Jersey Channel Sewage Tunnel	Oct-02	US Army Corps of Engineers - New York District	no accident or injury
Pre-Construction Side-scan Sonar Imaging of Horizontal Drilling for Utility Pipeline in CT Harbor	Dec-02	Intercon Construction; Miller Marine	no accident or injury
DO 2: Blasting analysis: KVK and Newark Bay Channels Navigation Improvement Project: Phase II Contract Area 6, Contract Area 8, and Contract Area 5 (52ft)	Feb-02	US Army Corps of Engineers - New York District	no accident or injury
Reservoir Architecture: A Sequence Stratigraphic Framework: Carbonate Core and Reservoir Study V, Part 4	Jan-03	Schlumberger-Doll Research; ADCO	no accident or injury
DO 3: Subsurface Geophysical Exploration Newark Bay and Arthur Kill Channels, Task #1- Arthur Kill Sonar Image	Feb-03	US Army Corps of Engineers - New York District	no accident or injury
Channel Bottom Sonar Image & Survey of Port Mobil Channel, Arthur Kill - Navigation surveys	Mar-03	Ocean-Coastal Consultants; Exxon-Mobil	no accident or injury
Post Drilling Side-scan Sonar Image of Horizontal Drilling for Utility Pipeline in CT Harbor	Mar-03	Intercon Construction; Miller Marine	no accident or injury

Channel Bottom Sonar Image & Survey of Port Mobil Channel, Arthur Kill - Recovery surveys	Mar-03	Ocean-Coastal Consultants; Exxon-Mobil	no accident or injury
DO 3: Subsurface Geophysical Exploration - Newark Bay and Arthur Kill Channels Task #3- Black Silt Thickness	Apr-03	US Army Corps of Engineers - New York District	no accident or injury
Top-of-Rock at Manhattan Marine Transfer Station; Dept. of Sanitation, City of New York	May-03	City of New York, Department of Sanitation; Greeley & Hansen; Ocean-Coastal Consultants	no accident or injury
Channel Bottom Sonar Image & Survey of Port Mobil Channel, Arthur Kill - Acceptance surveys	Jul-03	Ocean-Coastal Consultants; Exxon-Mobil	no accident or injury
DO 3: Subsurface Geophysical Exploration Newark Bay and Arthur Kill Channels, Task #2- Arthur Kill Rock Evaluation	Aug-03	US Army Corps of Engineers - New York District	no accident or injury
Low-Frequency Survey of the BART Transit Tube, Oakland California - 50' Project	Sep-03	US Army Corps of Engineers - San Francisco District; Gahagan & Bryant Associates	no accident or injury
High-Definition Top-of-Rock at Marina & Recreational Pier, Arthur Kill Channel, NJ	Sep-03	Port Authority of New York & New Jersey; Lanagan Engineering	no accident or injury
Obstruction at Berth 68/70, Port Elizabeth, New Jersey	Sep-03	Port Authority of New York & New Jersey	no accident or injury
DO 4: Blasting Plans Analyses, Kill Van Kull and Newark Bay and Arthur Kill Channel Improvement Project, Phase II, 4 blast plans	Ongoing	US Army Corps of Engineers - New York District	no accident or injury
Sonar Imaging & Survey of Damaged Maintenance Pier, South of Staten Island Ferry Terminal at St. George	Nov-03	City of New York, Dept of Transportation: URS; Ocean-Coastal Consultants, Inc.	no accident or injury
Post Allision Hydrographic Survey Staten Island Ferry Terminal, St. George's Staten Island	Dec-03	City of New York, Dept of Transportation: URS; Ocean-Coastal Consultants, Inc.	no accident or injury
DO 5: Subsurface Exploration, Kill Van Kull: Rock & Boring Characterization	Dec-03	US Army Corps of Engineers - New York District	no accident or injury
MOQ thin section imaging	Mar-04	Schlumberger-Doll Research	no accident or injury

Sonar imaging of flats south of Port Mobil	Apr-04	USCG; US Navy; Phoenix International	no accident or injury
DO 6: Geophysical and Subsurface Exploration, NYNJ 50' Channel Project Contract 1 Kill Van Kull (SKVK2)	Jul-04	US Army Corps of Engineers - New York District	no accident or injury
DO 7: Side-scan Sonar Mosaic, Port Jersey CT3 & MOTBY	Aug-04	US Army Corps of Engineers - New York District	no accident or injury
Petrography on Kashagan East 5: Preliminary Kashagan Classification Linking CMR and Reservoir Geology	Sep-04	Agip KCO Kashagan/Schlumberger- Doll Research	no accident or injury
DO 8: Geophysical & subsurface exploration Arthur Kill Channel, Evaluation of pipelines crossing AK-2 & AK-3	Oct-04	US Army Corps of Engineers - New York District	no accident or injury
Estimate of Holocene-Pleistocene interface & Top-of-weathered-rock in two cross-sections, East of the Global Terminal Port Jersey, Bayonne, New Jersey	Oct-04	DMJM + Harris	no accident or injury
Interpretation of CPT Measurements on Protective Cover of BART Tube in Oakland Outer Harbor, 50' Project	Nov-04	US Army Corps of Engineers - San Francisco District; Gahagan & Bryant Associates	no accident or injury
DO 9: Subsurface and Geophysical Exploration, S-NB-1 Contract Area	Jan-05	US Army Corps of Engineers - New York District	no accident or injury
DO 10: South of MOTBY Habitat Enhancement Projects: Subsurface and Geophysical Exploration and Design Plans and Specifications	Jun-05	US Army Corps of Engineers - New York District	no accident or injury
DO 11: Geophysical and Subsurface Exploration, Newark Bay Channels, S-NB-1, Side-scan sonar, and Borings, NYNJ Harbor 50ft Project	May-05	US Army Corps of Engineers - New York District	no accident or injury
Rock Physics of gas field - Phase I	Feb-05	ENI-AGIP	no accident or injury
Geophysical survey of North River Tunnels	May-05	Amtrak	no accident or injury
DO 12: Subsurface & Geophysical Exploration S-KVK-1 and S-AN-1 Contract Area	Jul-05	US Army Corps of Engineers - New York District	no accident or injury
DO 13: Blasting analysis - KVK and Arthur Kill, Channels Navigation Improvement Project	Aug-05	US Army Corps of Engineers - New York District	no accident or injury
Rock Physics of Gas Field - Phase II	Jun-05	ENI-AGIP	no accident or injury

Geophysical Characterization of the Amityville Cut & Gilgo Shelf	Jul-05	Keyspan	no accident or injury
TO 10: Geotechnical & Ecological Report on South of MOTBY Enhancement	Apr-05	US Army Corps of Engineers - New York District	no accident or injury
Poroelastic Estimates for Upper Miocene Sands in Italy	Apr-05	ENI	no accident or injury
North River (Pennsylvania RR) Tunnels - Geophysical Surveys	Jun-05	Amtrak	no accident or injury
Location & elevation of the eastern segment of the Narrows pipe trench containing four 24" gas mains crossing the Anchorage Channel in New York Harbor	Nov-05	Keyspan	no accident or injury
Side-scan Sonar Safety Survey Utility Relocation and Removal, Arthur Kill Waterway	Jan-06	Caldwell Marine	no accident or injury
DO 01: Final Acceptance Survey for Utility Relocation and Removal Arthur Kill Waterway, AK-2 and AK-3 Contract area	Feb-06	US Army Corps of Engineers - New York District	no accident or injury
DO 02: Subsurface Exploration Port Jersey Contract S-PJ-3	Mar-06	US Army Corps of Engineers - New York District	no accident or injury
Anomalies in the Magnetic Field measured in the Channel between Brooklyn Piers 7&8	Jun-06	Port Authority of New York & New Jersey	no accident or injury
Locations & Elevations of the Eastern Segment of the Narrows Pipe Trench Containing Two 138KV Feeders, 29231 and 29232, 8 5/8" Steel Pipes Crossing the Anchorage Channel	Apr-06	ConEdison	no accident or injury
TO 03: Geophysical investigation of the New York Bay shaft of Passaic Valley Sewerage Commission Tunnel in Port Jersey, Bayonne, NJ	Sep-06	US Army Corps of Engineers - New York District	no accident or injury
Top-of-rock Surfaces and Sediment Isopach Geophysical and Subsurface Investigation S-KVK-2 Contract area	Oct-05	Bean Stuyvesant	no accident or injury
DO 04: Geomorphological/Geophysical Characterization of the Nature and Dynamics of Sedimentation and Sediment Transport in Newark Bay focusing on the Effects related to Continued and Future Federal Navigation Channel Deepening and Maintenance	Dec-06	US Army Corps of Engineers - New York District	no accident or injury
TO 07: Quality Assurance Review of Vibration Monitoring of Rock Blasting in S-KVK-2, Kill Van Kull, Staten Island	Feb-07	US Army Corps of Engineers - New York District	no accident or injury
DO 05: Geophysical Investigation as part of the Design of the Hackensack River Enhancement Project	Jun-07	US Army Corps of Engineers - New York District	no accident or injury

Seismic Determination of the Elevation of The Top-of-rock in the Cross-sectional Profile planned for the Water Siphon across the Anchorage, North of the Narrows in New York Harbor	Jul-07	CDM / Hatch Mott MacDonald	no accident or injury
---	--------	----------------------------	-----------------------

Appendix IV – Safety accountability project review form

3. Specifications

Was the project completed on time?

Were there any problems?

Were there any equipment failures?

Were there any job failures?

Were there any accidents?

Were there any injuries?

2. Accident and job failure details

If there were any accidents please provide a detailed account below.

If there were any job failures please provide a detailed account below.

If there were any injuries please provide a detailed account below.

3. Prevention from future failure / accidents including root-cause.

In the space below, please provide the root cause of the failure / accidents and steps to prevent future failures / accidents.

Appendix V – Accident Investigation Procedure Form

Instructions for the Incident/Accident Investigation Form

Purpose of Form: Effective loss control efforts require documentation of incidents and accidents to determine hazards or problem areas, procedures, or systems and to perform trending. Thorough investigation is required to determine the facts surrounding events so that remedial action can be taken, if required. This form provides an outline of needed information. The document becomes a legal accounting of the facts surrounding the incident/accident.

A. Employee Data

Complete the top of the form with the identifying information and the date and time of the incident/accident. If a claim has been filed, complete the space for the claim number.

B. Incident Description

Attachment 1 contains benchmarked accident investigation procedures. Sufficient action is necessary to ensure that all facts surrounding the incident/accident are obtained so that effective loss control procedures can be established to protect against future incidents/accidents occurring. The form is developed to capture this information and to help the accident investigator come to reasonable conclusions concerning the events.

1. Where did the incident happen? – Go to the scene. Provide a visual image of the location of the incident. The reader should be able to visualize the area and the surrounding environment.
2. What was happening at the time of the incident? – Document the sequence of events leading up to the incident/accident. Include names of people interviewed and activities surrounding the event.
3. Describe any injury incurred, body parts and kind/s of injury/ies. – Through interview with the affected employee, determine what kinds of injuries were sustained and what body parts were involved.
4. What exactly caused the physical injury, or if an injury was avoided, what could have caused an injury? – What were the mechanics that caused the injury or could have caused an injury? Were procedures followed? Are the procedures faulty? Was equipment in good repair? Were there environmental hazards?

C. Investigation Results

5. After review of all facts, what was the hazardous condition, unsafe work practice or other root cause of the incident/ injury?

D. Corrective Action

6. What is recommended to help prevent this type of incident/accident from occurring again? Provide short term and long term corrective actions that will prevent or eliminate the hazardous condition, unsafe work practice, and root causes
8. Who will be contacted concerning recommended action to ensure follow-up? Completion of this section ensures that the management staff involved knows that action has been taken to remedy the hazardous condition.

Draft – October 4, 2007

Signature Block – The investigator should sign and date/time the completion of the form.

A. Employee Data							
Date of incident:				Time:			A.M. P.M.
Employee Name:							
Working Title:				Dept.			
Employee Contact #:	Hm.		Wk.		Other		
Supervisor Contact:						Wk	

B. Incident Description

Obtain written and/or recorded statements from injured employee. What happened? What caused the accident? What were the contributing factors? Reconstruct the sequence of events that led to the injury. Attach additional sheets if necessary. This document becomes a legal accounting of the facts surrounding the incident/accident. When documenting the facts, include answers to the following questions:

1. Where did the incident happen? Provide a full description of the surroundings of the location.
2. What was happening at the time of the incident? What were the events leading up to the incident?
3. What exactly caused the physical injury? What were the mechanics involved? Or, if a physical injury was avoided, what could have happened to cause an injury?
4. Describe any injury incurred by the employee, what body part/s and what kind/s of injury/ies. If there are no injuries, so state.

C. Incident Findings

After review of all facts, what was the hazardous condition, unsafe work practice or other root cause of the incident/ injury?

D. Corrective Action

What is recommended to prevent this type of incident/accident from occurring again?

Actions taken to ensure recommendations are considered:

Signature of Accident Investigator

Date

Time

Internal Distribution: Original: Earthworks, LLC Safety Supervisor

Copies: Earthworks, LLC Safety Officer
Employee's Supervisor
Director/Manager of Department or Section

ACCIDENT INVESTIGATION BEST PRACTICES

I. Fact-Finding

1. Emphasis is placed on gathering facts; not to place blame, or determine the cause of accident.
2. Inspect the accident site before any changes occur
3. Preserve essential and critical evidence
4. Take photographs and/or make sketches of the accident scene.
5. Interview the injured employee and witnesses as soon as possible after an accident. Record pre-accident conditions, the accident sequence, and post-accident conditions.
6. Document the location of injured employee, witnesses, machinery, equipment, energy sources, and hazardous materials.
7. Ask *who, what, when, where, why, and how* during interviews.
8. Re-interview injured employee and witnesses to resolve conflicting accounts of the accident.
9. Remain completely objective during interviews and in documentation – no opinions, just the facts.
10. Keep complete and accurate notes.

II. Interviews

1. Get preliminary statements from victims and witnesses as soon as possible.
2. Explain the purpose of the investigation (accident prevention) and put each witness at ease.
3. Let each witness speak freely and take notes without distracting the witness.
4. Record the exact words used by the witness to describe each observation.
5. Be sure that the witness understands each question.
6. Identify the witness completely (name, occupation, years of experience, phone number).
7. Supply each witness with a copy of his or her statement (signed statements are desirable).

III. Accident Reconstruction

1. Develop a sequence of events from the information obtained from the victims and witnesses.
2. Identify hazardous conditions present during the accident.
3. Identify unsafe work practices present during the accident.
4. Identify system issues that caused or contributed to the accident.
5. Determine root causes of the accident.
6. If discrepancies exist, seek assistance from professional accident investigator/reconstructionist.

IV. Investigation Reporting

1. Provide complete, thorough information about the accident (the *who, what, when, and where* data).
2. Describe the accident. Document the sequence of events of the accident. Identify the extent of damage to the employee and/or property.
3. Identify hazardous conditions and/or unsafe work practices for each event of the accident.
4. Identify the root cause of each hazardous condition or unsafe work practice.
5. Provide short-term and long-term corrective actions that prevent or eliminate the identified hazardous conditions, unsafe work practices, and root causes.
6. Describe the corrective actions recommended, the persons who are accountable for each corrective action, and the approximate time frame for correction.

V. Corrective Actions

1. Recommend immediate corrective actions to eliminate or reduce hazardous conditions and/or unsafe work practices.
2. Recommend long-term corrective actions that correct policies, programs, plans, processes, and/or procedures.
3. Recommend engineering controls, administrative controls, and/or personal protective equipment.
4. Estimate the cost to implement each immediate and long-term corrective action.
5. Develop an action plan for each corrective action.
6. Monitor implementation of the action plan to ensure appropriate corrective action is taken.

Appendix VI – Staffing Plan

Field crew on the survey boat

Matt Art – senior scientist & logistics manager, safety officer (203.312.4943)

James Dinniney – boat captain (917.337.3163)

William (Bill) Murphy – expert geophysicist, safety supervisor (203.820.7320)

William (Will) Murphy – senior scientist & field operations manager (203.948.5250)

Gary Fleming – senior mathematician (830.388.0073)

Field crew on land

Matt Art – senior scientist & logistics manager (203.312.4943)

William (Bill) Murphy – expert geophysicist (203.820.7320)

William (Will) Murphy – senior scientist & field operations manager (203.948.5250)

Gary Fleming – senior mathematician (830.388.0073)

Richard Nolen-Hoeksema – Senior geophysicist (203.907.9596)

Draft – October 4, 2007

Rogers Surveying Health and Safety Plan



Rogers Surveying, P.L.L.C.

1632 Richmond Terrace, Staten Island, N.Y. 10310

Tel: (718) 447-7311 Fax: (718) 273-8560

www.rogerssurveying.net

September 14, 2007

Enviromental Liability Management, Inc.

218 Wall Street

Research Park

Princeton, NJ 08540

ATT: Michael J. McNally, P. E.

RE : HEALTH & SAFETY PLAN

Mr. McNally;

As per our conversations concerning our upcoming contract with Enviromental Liability Management, Inc. please find below our Health and safety Plan which should satisfy your requirements.

SECTION 1.0 GENERAL INFORMATION

1.1 The specific work which we will accomplish is that of Professional Land Surveying.

Under this heading there are numerous sub-categories of services;

- a. Cadastral (Boundary) Surveys
- b. Topographic Survey
- c. Hydrographic Survey
- d. Utility Layout and Location
- e. Construction layout (Line & Grade, steel, etc.)

Rogers Surveying, PLLC has implemented a corporate safety plan with Enviromental Liability Management, Inc. hazards in mind.

SECTION 2.0 HAZARD ANALYSIS / RISK ASSESSMENT

2.1 Our assessment of hazards will be as stated by survey services as stated in Section

1.1 a-e:

- a. Cadastral Surveys – primarily these surveys are conducted in the field and the office. Office work is based on research of existing deeds and property line determinations. After proper research field work will commence with location of field control. This control usually consists of property monuments or other control. Typical hazards with these types of surveys consist of working in busy intersections, sidewalks,

residential yards or any other place where property possession is in question or needs to be addressed. We follow general rules as established by municipalities pertaining to roadway safety precautions. Some of these require us to contract coning contractors and additional flagmen. We have performed these services under a similar contract with the Port Authority of New York and New Jersey. All of our field personnel wear reflective safety vests, orange shirts, work boots and the proper amount of safety cones and flagmen. Hard hats are also worn at all times. Also any spray paint used will be lead-free. Any product we use will have attached a written Material safety Data Sheet (MSDS) detailing potential hazards.

- b. Topographic Surveys generally consist of the same hazards as described above.
- c. Hydrographic surveys pose many additional hazards. All of our survey vessels are piloted by a licensed U.S. Coast Guard Pilot. All U.S.C.G. safety precautions are met, including: life vests for all personnel on boat including additional vests for passengers, flare guns, Marine band radio, GPS navigation equipment and any other safety as required by the U.S. Coast Guard.
- d. The hazards associated with utility layout and construction layout are included in a. and b. but are again more intensive. Additional men and flagmen are required to allow for "more eyes" at the site. Due to many large machines which can be on-site during construction, a greater awareness is needed by all involved in the field crew. Any work performed in or near excavation sites pose greater problems also. Any area which has been excavated (5' deep) MUST be shored back. If any excavated site is deemed "hazardous" our employees will not enter any such area. Training to our personnel regarding excavated sites will be accomplished by further training.

During some specific projects we will encounter "higher elevation" survey work. These jobs will require us to work above ground on buildings, walkways, etc. On these projects all of our survey personnel are required and trained to work from elevation and wear harnesses as approved for such use.

Another possible site hazard involves electrical clearances. Under no circumstances will our survey personnel use a level rod which will extend more than 7' +/- . We will use non-metallic folding rulers for all of these sites where electrical clearances are a hazard. Also, our prism poles for our electronic distance (EDM) meters will max out at 7.05' posing virtually no clearance hazard.

SECTION 3.0 SITE IMPLEMENTATION PROGRAM

On all projects our field personnel will follow strict guidelines with regard to daily procedures. Our field personnel will meet on-site and will discuss general and specific safety hazards and requirements, project sign-in and sign-out procedures, work permit acquisition and emergency procedures.

Our on-site Crew Chief will be the point of contact. This man will be responsible for all coordination, during and off-business hours. Emergency and Mobile telephone numbers will be given out to all interested parties. We generally assign the same Crew Chief to an on-going project, although all of our Crew Chiefs are quite competent. Our field crews all use two-way radios for their field communication and we employ the use of Nextel® two-way radios and digital cellular phones for communication with office support. Additionally, all of our field vehicles (either survey vans or boats) will carry and personnel are trained in the use of fire extinguishers, first aid kits, radios, cellular phones, additional safety and life vests, hard hats, boots, goggles, locations of nearest hospitals, point of contact of Project Manager.

SECTION 4.0 OIL, CHEMICAL AND WASTE MANAGEMENT

Any chemicals which we anticipate to keep stored on or near site will be documented, along with copies of MSDS sheets. We anticipate only to carry lead-free marking paint.

SECTION 5.0 EMERGENCY RESPONSE PROGRAMS

If any accidental spillage of any chemical occurs, due to us or not, we will inform our Project Manager immediately.

Very truly yours,



Daniel W. Rogers, L.S.

A.C.S.M. Certified Hydrographer

Attachment 3

Rogers/Earthworks Qualifications Information

SUBMITTED ELECTRONICALLY